

**OCCUPATIONAL SAFETY  
AND HEALTH STANDARDS BOARD**

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**FINAL STATEMENT OF REASONS****CALIFORNIA CODE OF REGULATIONS**

TITLE 8: Chapter 4, Subchapter 7, Article 9, Section 3362 of the General Industry Safety Orders

**General Sanitation Requirements for Mold**

There are no modifications to the information contained in the Initial Statement of Reasons (ISOR) except for the following nonsubstantive or sufficiently related modifications which are the result of public comments.

It is proposed to restore subsection (a) to its original form. This modification is necessary to eliminate any misconceptions and to better address the issue of mold as a separate subsection.

It is proposed to add a new subsection (g) to clarify that the Division is addressing the most frequent source of problematic mold growth, uncontrolled water presences within buildings. This proposed modification is necessary to clarify for the regulated public a means to reduce mold growth by controlling its source. The cost of compliance with the proposed regulation is offset by saving funds that would otherwise be spent correcting mold damage. For this reason, there should not be a significant cost impact on the regulated public.

The proposed modification is in response to numerous public comments and an Advisory Meeting held by the Division on November 13, 2001 to revise the proposal relating to mold. It is necessary to provide the employer with an easily identified problem that can be corrected to reduce the growth of mold. Section 3362 is amended to add the following new subsection (g):

(g) When exterior water intrusion, leakage from interior water sources, or other uncontrolled accumulation of water occurs, the intrusion, leakage or accumulation shall be corrected because of the potential for these conditions to cause the growth of mold.

**SUMMARY AND RESPONSE TO ORAL AND WRITTEN COMMENTS****I. Written Comments:**

List of Commenters:

1. James W. Alderink, Regional Safety Manager, Performance Contracting Group  
Source of Comment: Letter dated August 13, 2001.

2. John L. Bobis, P.E. PhD, Environmental, Health and Safety, Aerojet  
Source of Comment: Letter dated September 10, 2001.
3. Tom Rankin, President, California Labor Federation AFL-CIO.  
Source of Comment: Letter dated September 11, 2001.
4. J. Roy Gabriel, Legislative Director, Labor Affairs, California Farm Bureau Federation  
Source of Comment: Letter dated September 12, 2001 supporting the Chamber.
5. Kathy Masera, President, California Job Journal  
Source of Comment: Letter dated September 13, 2001.
6. Patrick Rita, Vice President, State Government Relations, American Forest and Paper Association  
Ron Kingston, Legislative Advocate, California Association of Realtors  
Nick Cammarota, General Counsel, California Building Industry Association  
Rex S. Hime, President and CEO, California Business Properties Association  
Jan Hansen, Executive Director, Lumber Association of California and Nevada  
Source of Comment: Letter dated September 13, 2001.
7. Cody A. Tubbs, Government Relations Associate, Consulting Engineers and Land Surveyors of California  
Source of Comment: Letter dated September 13, 2001.
8. Melissa Patack, Vice President, Motion Picture Association of America  
Source of Comment: Letter dated September 14, 2001.
9. Ronald P. Hutton, Health and Safety Manager, Allergan Inc.  
Source of Comment: Letter dated September 17, 2001.
10. Joseph F. Kukla, CIH  
Source of Comment: Letter dated September 19, 2001.
11. Philip Maynard, CIH, Chair IAQ Subcommittee, University of California Industrial Hygiene Committee  
Source of Comment: Letter dated September 19, 2001.
12. Howard Spielman, Board Member, California Industrial Hygiene Council  
Source of Comment: Letter dated September 19, 2001.
13. Richard M. Warner, Industrial Hygiene Manager, Southern California Edison  
Source of Comment: Letter dated September 19, 2001.
14. Julianne Broyles, Director: Insurance and Employee Relations, California Chamber of Commerce  
Willie Washington, Director, Safety and Health, California Manufacturers and Technology Association  
Source of Comment: Letter dated September 20, 2001.
15. Greg Roddick, Manager, Safety Management, Southern California Gas Company  
Source of Comment: Letter dated September 20, 2001.
16. Dan Tappen, Supervising Industrial Hygienist, County of San Diego Department of Environmental Health  
Source of Comment: Letter dated September 20, 2001.
17. Samantha Turner, Chair of the Safety Health and Environment Committee, Associated General Contractors of California  
Source of Comment: Letter dated September 21, 2001.
18. Embree B. Cross, President, Truckee•Tahoe Lumber Co.

- Source of Comment: Letter dated September 12, 2001.
19. Mark Boone, Vice President, Champion Lumber Company  
Source of Comment: Letter dated September 10, 2001.
20. Michael Learned, Learned Lumber  
Source of Comment: Letter dated September 10, 2001.
21. Matt Petersen, Vice President, Mead Clark Lumber Company, Inc.  
Source of Comment: Letter dated September 7, 2001.
22. John R. Neel, Reliable Wholesale Lumber, Inc.  
Source of Comment: Letter dated September 7, 2001.
23. Greg Keller, Vice President, Keller Lumber Sales Inc.  
Source of Comment: Letter dated September 10, 2001.
24. James D. Gilchriest, CFO, Ransom's True Value Lumber  
Source of Comment: Letter dated September 10, 2001.
25. M. J. Kallerud, Manager, Environmental Projects, USS-Posco Industries  
Source of Comment: Letter dated September 10, 2001.
26. El Louise Waldron, President, Waldron Forest Products, Inc.  
Source of Comment: Letter dated September 10, 2001.
27. John B. Shirley, President, BARR Lumber Company, Inc.  
Source of Comment: Letter dated September 10, 2001.
28. Buck Byers, Vice President/Operations, BARR Lumber Company, Inc.  
Source of Comment: Letter dated September 10, 2001.
29. Scott Eastman, Eastman Building Products  
Source of Comment: Letter dated September 10, 2001.
30. Mike White, Regional Manager, Big Creek Lumber  
Source of Comment: Letter dated September 12, 2001.
31. Ronald L. Drolet, Vice President, BARR Lumber Company, Inc.  
Source of Comment: Letter dated September 10, 2001.
32. John A. Saunders, Economy Lumber  
Source of Comment: Letter dated September 10, 2001.
33. Kathleen Patterson, President, Central Valley Builders Supply  
Source of Comment: Letter dated September 11, 2001.
34. L. R. Schield, Jr., President, The Terry Companies  
Source of Comment: Letter dated September 10, 2001.
35. Dominic M. Falasco, Managing Partner, Los Banos Lumber and Sales Co.  
Source of Comment: Letter dated September 10, 2001.
36. Marshall Ely, Foothill Mill & Lumber Co.  
Source of Comment: Letter dated September 13, 2001.
37. Lawrence H. Olson, Vice President/Owner, Crenshaw Lumber Co.  
Source of Comment: Letter dated September 10, 2001.
38. Milton E. Johnson, President, Home Lumber Company  
Source of Comment: Letter dated September 10, 2001.
39. Frank Solinsky, President, Payless Building Supply  
Source of Comment: Letter dated September 11, 2001.
40. David Anawalt, President, Anawalt Lumber Co., Inc.  
Source of Comment: Letter dated September 11, 2001.

41. Jim Baly, Owner, Colonial Lumber Co.  
Source of Comment: Letter dated September 13, 2001.
42. Robert R. Anno, Vice President, Allweather Wood Treaters  
Source of Comment: Letter dated September 10, 2001.
43. Charles Bohn, General Manager, Reedley Lumber & Building Center  
Source of Comment: Letter dated September 10, 2001.

Comment No. 1:

Provided by commenters: Alderink, Bobis, Gabriel, Tubbs, Patack, Hutton, Kukla, Maynard, Warner, Spielman, Broyles, Washington, Kallerud, Tappen, Turner and Roddick.

The proposed amendment to the revision to Section 3362(a) is too broad in scope in that it does not limit the types of mold that are to be addressed or set exposure levels for each identified toxic mold for achieving compliance. Not all molds are toxic and reactions to mold vary widely among people. The proposed amendment does not identify species of mold scientifically proven to be toxic, define infestation or visible mold, or set limits for compliance. References to visible mold or mold-infested materials should not be in the proposed amendment. Mr. Alderink added, "Classifying mold as unsanitary, the same as vermin or putrefying matter, defies conventional logic." Commenters Bobis, Broyles, and Washington said the proposal to amend Section 3362(a) should be reviewed by an advisory committee including the regulated community. Mr. Maynard further noted that the proposed amendment to Section 3362(a) was not clear on the importance of removing the source of moisture that allows the mold to grow.

Response:

The proposed amendment to Section 3362(a) was not intended to establish either that all molds are toxic or to establish a permissible exposure limit for the mold species that are known to produce toxic effects. The Board acknowledges that there are many species of mold that have not been proven to cause adverse health reactions and that the physiological responses to the presence of molds vary with the individual. However, the Board believes that the unchecked presence of molds in general pose the same type of health nuisance that is created by the presence of bacterial putrescence and vermin. Also, if uncorrected, molds can physically damage the infested substrate and cause structural weaknesses in building components. The Board finds that the Division and the Hazard Evaluation System Information Service (HESIS) designed a proactive requirement to deal with molds in a fashion that precludes the need to conduct a costly identification of mold species.

In response to written and oral comments made to the original proposal, the Division convened an Advisory Meeting on November 13, 2001 and revised the proposal. The revised proposal creates subsection (g) that is intended to address the source of most problematic mold growth, the uncontrolled presence of water in the workplace. The revised proposal requires the employer to correct the water problem because it can cause the growth of mold.

Comment No. 2:

Provided by commenter: Masera

Ms. Masera supports the proposed amendment to specify that mold is a workplace contaminant that requires cleanup. The California Job Journal business facility had a broken pipe and water leakage that created a mold infestation. Ms. Masera, the employer, reports that twenty-four of the thirty employees suffered a variety of mold-induced symptoms including sinus, ear and lung infections, nosebleeds, and severe allergic reactions. She evacuated the building and relocated at the recommendation of a certified industrial hygienist.

Response:

The Board thanks Ms. Masera for relating to the regulated public her experience with water-leakage, mold and the impact that it had on her business. The Board believes that this supports the need to address mold as a workplace problem. The Board notes that the action taken by the employer was not in response to the Division's compliance activities.

Comment No. 3:

Provided by commenters: Alderink and Warner

The proposed amendment to Section 3362(a) is a duplication of existing regulations that will shift the burden of proof to the employer. The Division should continue to use the Medical Unit and HESIS to make a hazard determination when responding to a complaint about workplace mold problems instead of amending subsection (a).

Response:

The Board agrees with the Division's intent to continue to use existing Section 3362(a) for responding to complaints about workplace mold and its proposal to establish a preventive approach in subsection (g). The preventative approach will focus on the primary cause of unwanted mold growth, which is the presence of water. The Division believes that this approach is supported by the California Research Bureau report cited in the Initial Statement of Reasons (ISOR), which states that all the current consensus guidance documents recommend that microbial growth (or amplification), regardless of species, in a building should be eliminated, along with the sources that have led to its generation (moisture/water damage).

Comment No. 4:

Provided by commenters: Broyles, Washington, Gabriel, Kallerud, Rita *et al*, and Tubbs

The proposed amendment may interfere with concurrent legislation that would address the issue of identifying molds that are toxic and establish exposure limits. The Coalition of Rita *et al* has been working with the California State Legislature to address toxic mold concerns. SB 732 (Ortiz) is legislation that has been drafted to recognize that not all buildings can be treated with one similar approach. Facilities for housing or treating people in poor health need higher standards of care than buildings utilized by the general public.

Response:

The Board finds that the Division was aware that concurrent legislation might require the Department of Health Services (DHS) to identify mold species that cause adverse health reactions and set a permissible exposure limit for such species. The Division did not seek to preempt or interfere with such an effort. Subsequent to the comment, the pending legislation cited, SB 732, (Ortiz) was passed and signed into law on October 5, 2001. It does not mandate or preclude the Board from amending a standard to address mold-related issues as it would other sanitation problems. The other legislation, AB 284, (Jackson) requires the California Research Bureau in consultation with DHS to conduct a study on indoor fungal contamination and publish a report by January 1, 2003. Neither legislation puts state or local government rulemaking on mold-related issues in abeyance.

The Board acknowledges that some individuals with health problems are much more likely to be susceptible to the adverse health effects that are caused by molds. If DHS determines that more stringent requirements should be made for specific businesses, the Board will consider additional appropriate rulemaking.

Comment No. 5:

Commenters: Broyles, Washington, Rita *et al*, Alderink, Hutton, Patack, and Roddick

An article “Mold & Mildew: A Creeping Catastrophe” reports a mold remediation cost of \$150.00 per square foot. This should be reflected in this rulemaking as a cost that will be imposed on employers. This proposed regulation would impose a heavy financial burden on California employers.

Response:

The Board acknowledges that remediation can involve substantial costs. However, the Division believes that costly remediation expenses result from the unchecked growth of mold. Employers already incur these costs in the absence of the proposed change, because they ultimately pay to repair damage to the building or its contents from mold, or respond to litigation over the presence of mold in the workplace. Comment No. 2 illustrates the costly result of unchecked mold growth for one employer and did not result from a Division enforcement action.

The Board finds that the revised proposal compels an employer to use far less costly procedures to correct water accumulations leading to the growth of mold.

Comment No. 6A:

Provided by commenters: Boone, Learned, Patterson, Neel, Keller, Gilchrist, Kallerud, Waldron, Shirley, Byers, Eastman, White, Drolet, Saunders, Peterson, Schield, Falasco, Ely, Olson, Johnson, Solinsky, Anawalt, Baly, Bohn, Cross, and Anno.

The Lumber Association of California and Nevada (LACN) is opposed to the proposed amendment to Section 3362(a). The Association’s primary concern is the natural occurrence of mold on green framing lumber that is commonly used to frame structures because it is cost effective, easier and faster to use than seasoned wood. The proposal would treat all molds the same even though all molds are not toxic.

Response:

The Board notes that the Division has revised the proposal as is described in the response to Comment No. 1. The Board also finds that the Division's original proposal was not intended to apply to the construction process or to the proper use of green lumber.

Comment No. 6B:

The LACN believes that it is important to obtain the best information about mold and inform the public about the associated health risks and help state and local agencies to establish standards for mold and help with their detection, prevention, and elimination.

Response:

The Board concurs that it is important to compile information about the health risks associated with molds and inform the regulated community and the public at large. However, the Board notes that this task has been given to the Department of Health Services by SB 732 (Ortiz), and to the California Research Bureau by AB 284 (Jackson). The Board also notes that the Division is a state agency proposing a revision to Section 3362 with the intent of reducing problematic mold growth in many work environments in keeping with the concern expressed by LACN.

Comment No. 7:

Provided by commenters: Bobis, Broyles, and Washington

The proposed amendment to Section 3362(a) encompasses "building exteriors and interiors and environs" which can refer to everything in the workplace.

Response:

The original text was simply reworded in an effort to provide grammatical clarity. The Division is restoring the original language in order to eliminate confusion.

Comment No. 8:

Provided by commenter: Rankin

The California Labor Federation supports the proposal to require employers to clean visible mold as part of the workplace sanitation requirements. There is increasing awareness that employees may suffer adverse health effects from exposure to mold at work and this requirement will decrease this health risk to workers.

Response:

The Board thanks the California Labor Federation for expressing their support of the proposal to amend Section 3362(a). The Board notes that the Division has revised the proposal to address the source of mold growth, which is the accumulation of water. Please see the response to Comment No. 1. Also, the Division intends to address the presence of mold in the workplace using Section 3362(g). Please see the response to Comment No. 3.

Comment No. 9:

Provided by commenter: Turner

The Associated General Contractors of California (AGC) opposes proposals addressing mold until there are standard means and methods to address the problem. There is no guidance regarding proper methods of evaluation or clean up.

Response:

Although the revised proposal does not address mold directly, the Board acknowledges that such guidance is available for employers. HESIS produced an introductory guidance document that identifies the nature of the problem that mold presents and general approaches to dealing with its presence. For more detailed information, the document includes references to existing guidance documents produced by agencies including DHS, the U.S. Environmental Protection Agency, and the New York City Health Department. Please also refer to Comment 10. Therefore, the Board respectfully declines to preclude an amendment to the existing regulation.

Comment No. 10:

Provided by commenter: Spielman

The assessment and control of bioaerosols is thoroughly covered in a publication of the American Conference of Government Industrial Hygienists (ACGIH) and the Division should use this document as guidance for its mold evaluations.

Response:

The Board notes that the Division used similar references, as summarized in the documents relied upon, in researching their proposal.

Comment No. 11:

Provided by commenter: Patack

In the motion picture industry, creating special effects can produce a high humidity environment that may lead to minor mold growth.

Response:

The Board finds that the proposed amendment is worded so that it does not apply to environments, such as that described by the comment, in which the presence of water is controlled.

Comment No. 12:

Provided by commenters: Broyles and Washington

The Division does not have the authority to develop a standard on mold because such action is not mandated by California statute. Labor Code Section 142.3 refers to chemical hazards and not microorganisms and Labor Code Section 147 requires research to support the action taken by the Division.



Response:

The Board is satisfied that the Division evaluated the HESIS recommendation and proposed the initial amendment to Section 3362(a) and the subsequent proposal for a new subsection (g) in accordance with Labor Code Section 147.1(c). The Board also believes that Labor Code Section 142.3 does not preclude the Board from addressing occupational health issues related to microorganisms. Therefore, the Board respectfully declines to reject the Division's proposal in response to the comment.

The Board thanks the commenters for their participation in the Board's rulemaking process.

II. Oral comments received at the Public Hearing , September 20, 2001 in Los Angeles, California.

Chairman Ingram and members Lee, Mueller, and Murray

Comment:

The Board requested the Division to convene an advisory committee to discuss this issue.

Response:

The Division agreed to have an advisory committee; it was held on November 13, 2001.

Jim Lites, American Forest and Paper Association

Comment:

Mr. Lites believes SB 732 will provide more information to the regulated public than the proposed amendment. For example, how will an employer judge that an article is too heavily infested to clean and must be removed from the workplace. Mr. Lites volunteered to participate in the advisory committee process.

Response:

The Board finds that the Division anticipated that an employer would use a hierarchy of responses to various stages of mold infestation in the workplace. Such a hierarchy appears in the commonly used guidance documents that are readily available for employers from HESIS, the Department of Health Services' Environmental Health Investigations Branch (EHIB), the AIHA, the EPA, and the New York City Department of Health. These documents describe cleaning or removal methods that an employer or property owner should follow in response to varying degrees of mold infestation.

Comment:

The proposed amendment to subsection (a) does not take into account the various facilities that may be used by people with greater or lesser susceptibility to mold-related effects.

Response:

The Board concurs that individuals have varying susceptibility to mold-related health effects. As stated in the response to Comment No. 1, the Board believes that the task of determining the varying impact of molds on facilities for individuals who tend to be more susceptible to mold-related effects has been assigned to the Department of Health Services. The Board finds that the Division has revised its proposed amendment with the intent of preemptively reducing the overall occurrence of mold growth within a workplace. Please see the responses to Comments No. 1 and No. 3.

The Board thanks Mr. Lites for his comments and participation in the Board's rulemaking process.

Elizabeth Katz, Industrial Hygienist, HESIS

Comment:

There is consensus among the scientific community, medical community, and regulatory agencies that indoor mold causes health problems. HESIS established this as a problem in California from phone requests for information made to their staff, and field investigations made by their staff. A study of Doctors' First Reports of occupational injuries and illnesses indicates that employees often have to prove that their ailments are caused by mold in the workplace. HESIS considered the difficulties in establishing a regulation that would measure or account for the types of mold, spore measurement, and a measurement for infestation and proposed language that would not require expensive and time-consuming testing. Preventive maintenance is the most prompt and practical way to avoid mold infestation.

Response:

The Board thanks Ms. Katz for reporting the background and considerations that went into the HESIS and Division proposal and for her participation in the Board's rulemaking process.

Yolanda Benson, Mattos & Associates

Comment:

Mattos & Associates is part of the coalition that is also represented by Mr. Lites. Ms. Benson agrees that water intrusion is where molds start, but there is also a remediation cost that will result from determining the cause and extent of the mold growth. It costs approximately \$150.00 per square foot to clean mold. Ms. Benson believes SB 732 will help develop guidelines and remediation standards. Ms. Benson volunteered to be a participant in the advisory committee process.

Response:

The Board concurs that remediation may be costly. However, the Board finds that the Division believes that an employer incurs such costs more often in response to litigation than as the result of a Division enforcement action. The Board also believes that the revised proposal is designed to minimize the growth of mold and reduce the need for actual remediation. Please see the response to Comment No. 5.

The Board thanks Ms. Benson for her comments and participation in the Board's rulemaking process.

Sylvia Shattuck, Industrial Hygienist, The Gas Company

Comment:

The Board is to be commended for attempting to address the mold issue. However, the term "visible mold" should be quantified since mold is everywhere. The proposal also characterizes mold as a hazard which suggests that the situation is more than just something unsanitary. Not all molds are toxic and any regulation should focus on molds that are known to be a health problem. The proposed amendment to subsection (a) will require employers to conduct costly inspections and pay for increased janitorial services. Mold removal is only possible if the condition that allows the mold to grow is discovered and corrected.

Response:

The Board thanks Ms. Shattuck for the affirmation of the goal of this proposal. The Board notes that in response to many similar comments concerning the varying toxicity and ubiquity of mold, the Division revised its proposal by addressing the source of indoor mold problems, uncontrolled water accumulations. Please see the response to Comment No. 1. The Board also concurs that true control of the mold requires correcting the condition allowing the mold to grow.

The Board thanks Ms. Shattuck for her participation in the Board's rulemaking process.

Richard Warner, Southern California Edison

Comment:

Mr. Warner wanted to add to the comments made in writing. Since the Division has not had appeals resulting from citing Section 3362(a), there is no need for the proposed amendment to the subsection. There is also no definition of infestation. A CDC document states that mold exposure does not always present health problems indoors, so there is not sufficient reason to spend a lot of time and money on this problem. Similarly, there is inadequate evidence to establish an association between mold exposure and the development of asthma. For these reasons, Mr. Warner recommends that the proposed amendment not be adopted.

Response:

The Board finds that the Division believed that the proposed amendment would not only support the enforcement actions taken by Division personnel, but would also induce an employer to establish preventive maintenance when needed to minimize mold growth within the workplace.

The Board notes that this approach would also largely preclude the need to identify which molds and the level of infestation that would cause health problems indoors. The Board also notes that the Division acknowledges the divergent views of the potential for mold to cause specific diseases such as asthma, but does not base the need for this proposal on a single disease. Consequently, the Board respectfully declines to reject an amendment to Section 3362.

The Board thanks Mr. Warner for his comments and participation in the Board's rulemaking process.

Ronald Hartman, Quisenberry & Kabeteck LLP

Comment:

Mr. Hartman speaks from his experience as a public advocate. There is scientific consensus that exposure to mold is generally harmful, and the harmful effects vary with the individual. The costs to the employer are outweighed by the prevention benefits. Mold exposures reduce employee productivity, cause sick days and workers' compensation claims, and increase insurance costs.

Response:

The Board thanks Mr. Hartman for presenting this information and finds that the Division concurs with these remarks.

John Clements, Sony Pictures Entertainment

Comment:

Sony companies go to many temporary locations where the buildings are not controlled or owned by Sony. The proposal could cost the company thousands of dollars to clean a site that would only be used for one or two days with no harmful exposure to the employees, and this would be a significant burden to the industry.

Response:

As noted above, the proposal has been amended so that it does not state any new requirement to clean up or remove mold or mold infested building components. This comment applies with equal force to all occupational safety and health standards as they apply to employers with employees in buildings and other work environments over which the employer does not exercise direct or complete control. In such circumstances, the Board believes that an employer's duty to correct hazardous conditions or to otherwise prevent employee exposure to hazardous conditions is controlled by Labor Code Sections 6400, 6401, 6401.7, 6402, 6403, 6404, 6405, 6406, 6407, and 6408, which define generally the employer's duty to do what is reasonably necessary to protect employees. The Board does not believe that the proposed amendment as currently written imposes a duty on employers who are building tenants to perform maintenance functions outside of the contractual obligations of their tenancy.

The Board thanks Mr. Clements for his comments and participation in the Board's rulemaking process.

Vincent Paul, Department of General Services

Comment:

Mr. Paul noted that he has had a lot of experience with mold problems and offered his assistance in the advisory committee process.

Response:

The Board thanks Mr. Paul for his offer of assistance and participation in the Board's rulemaking process.

**DETERMINATION OF MANDATE**

This regulation does not impose a mandate on local agencies or school districts as indicated in the Initial Statement of Reasons.

**ALTERNATIVES CONSIDERED**

The Board invited interested persons to present statements or arguments with respect to alternatives to the proposed regulation. No alternative considered by the Board would be more effective in carrying out the purpose for which the action is proposed or would be as effective and less burdensome to affected private persons than the adopted action.